Donovan S. Correll (1908–1983)

Donovan Stewart Correll was born on 13 April 1908 in Wilson, North Carolina. He grew up in Winston-Salem and attended Duke University, which awarded him an A.B. in 1934 and an A.M. in 1936. From 1939 to 1943 he did graduate study at the Botanical Museum, Harvard University. He was awarded a Ph.D. by Duke University in 1943. He joined the U.S. Navy for the balance of World War II, and then worked in the Division of Plant Exploration and Introduction, U.S. Department of Agriculture, from 1944 to 1956. He was the Chief Botanist at the Texas Research Foundation from 1956 until 1972, worked for the National Science Foundation as a program director in 1972 and 1973, and then "retired" to the Fairchild Tropical Garden, where he carried out a strenuous research program until shortly before his death on 28 Mar 1983, not long after completing his monumental "Flora of the Bahamas Archipelago." His principal works on ferns were "The Ferns and Fern Allies of Louisiana" (with Clair A. Brown), the "Ferns and Fern Allies of Texas," and "The Ferns and Fern Allies of Chihuahua" (with I. W. Knobloch). Besides the ferns, his specialties were the Orchidaceae, Solanaceae, and Palmae, and also the floras of the southwestern United States and the Bahamas. His knowledge of the floras of the New World was tremendous. He conducted field work in the United States, Mexico, Central America, the West Indies (especially the Bahamas), South America, and Hawaii. An obituary and bibliography is to be published in Brittonia. —*D.B.L.*

REVIEW

FERNS AND ALLIED PLANTS. WITH SPECIAL REFERENCE TO TROPICAL AMERICA, by Rolla M. Tryon and Alice F. Tryon. xiv + 858 pp. illustr. Habitat photography principally by Walter F. Hodge. Springer-Verlag, New York. 1982. ISBN 0-387-90672-X. $148.00—Fern specialists are blessed (some would say cursed!) with almost as many classifications from which to choose as there are pteridologists. The Tryons provide us with yet another choice. In a luxurious format designed to facilitate quick reference and comparison, they give a synonymy, a description, comments on classification, a key to the genera, and selected references for each of 29 families. Each generic treatment includes a synonymy, a description, a statement on classification, a discussion of the tropical American species, often keys, discussions of ecology, geography, spores, and chromosome numbers, additional observations (mostly interesting notes on natural history), and literature. Taxonomic opinions also have been rendered at the species rank, e.g., in *Schizaea* (p. 78), *Paesia* (p. 396), and *Dryopteris* (p. 501), usually with a reduction in species. An index to scientific names completes the work.

One of the best features of the book is the abundance of good illustrations. These include habit photographs of nearly all genera, photographic details of diagnostic features (e.g., venation, indument, and sori), silhouettes of fronds (chosen to show diversity in a genus), line drawings and pencil sketches, and SEM photographs of

spores and occasionally other characters. In addition there are dot maps showing generalized American distributions for each genus; these I find of questionable value—their place could have been taken by a simple statement of range.

The SEM photographs of spores are one of the most conspicuous features of this book, represent a primary source of new data in the classification, and deserve special comment. I was struck by the often large variation in spore ornamentation within many genera and even within species (e.g., *Cystopteris fragilis*). Such diversity leads me to question the utility of spore morphology in arriving at taxonomic judgments; at least the use of this evidence must be tempered with data from many other sources. The authors are to be commended for giving vouchers for spore photographs. However, they fail to mention sample sizes when making generalizations based on spore morphologies, e.g., the distinction between *Microlepia* and *Dennstaedtia* (p. 375).

Interspersed in the text are a few original chromosome counts (e.g., *Platycerium andinum*, *Trichipteris microdonta*). It is apparent that chromosome numbers also form a principal body of evidence in the Tryons' new classification. There is an inclination to refer to ancestral base numbers for some groups, despite the lack of convincing evidence for such numbers (e.g., 23 from 69 for the Cyatheaceae).

In general, the authors have taken a moderate view in recognition of families, somewhere between the narrow circumscriptions of Pichi Sermolli (1977) and Ching (1940) on the one hand and Wagner (1973) on the other. Genera are circumscribed mostly in a broad sense, a position with which I generally agree; prominent examples are *Asplenium*, *Dryopteris*, *Gleichenia*, *Grammitis*, *Tectaria*, *Thelypteris*, and *Trichomanes*. Exceptions are the genera of the Cyatheaceae, the subject of recent monographic work by R. Tryon and students, and of the Polypodiaceae sensu stricto. I especially like the breakdown of large genera into species clusters—groups of presumably related species—with a characterization of these clusters (examples are in *Adiantum* and *Polypodium*, in addition to some of those mentioned above). There are a few surprising generic circumscriptions. For example, *Camptosorus* and *Ceterach* are accorded generic rank even though they readily hybridize with *Asplenium;* other equally distinct genera, e.g., *Antigramma*, are sunk in *Asplenium*. A similar situation is found in Pteridaceae, where *Adiantopsis* is recognized but *Aspidotis* and *Mildella* merged in *Cheilanthes*. Therein, *Cheilanthes siliquosa* has been placed in a different species group than *C. californica*, even though they are so closely related that they hybridize to produce a fertile allopolyploid, and juveniles of all three are almost indistinguishable. In the same family, the authors postulate a relationship between *Llavea* and *Lygodium* (p. 310), citing as evidence the similarity in spores and chromosome number; the chromosome number here seems like spurious evidence and the spores of *Llavea* actually appear more similar to those of certain other cheilanthoid genera, e.g., *Cryptogramma*.

The chief fault of most recent classifications is insufficient evidence. The Tryons provide more documentation for their views than most have done. This alone will make their book a standard and indispensable reference for specialists and generalists alike.—*Alan R. Smith, Department of Botany–Herbarium, University of California, Berkeley, CA 94720.*